

# SAME TECHNOLOGY UPGRADES SOLICITATION – FINAL CALL FOR SUBMISSIONS

Heading	Provisions
1. Purpose and Background	<p>(a) After more than a decade of strong supply, Ontario is entering a period of emerging electricity system needs, driven by increasing demand, the retirement of the Pickering nuclear plant, the refurbishment of other nuclear generating units, as well as expiring contracts for existing facilities. Recognizing the necessity to address these needs in a timely, cost-effective and flexible manner, the IESO has engaged with stakeholders in the development of a Resource Adequacy Framework. As Ontario’s electricity system evolves to become more diverse and dynamic, procurement processes must evolve along with it.</p> <p>(b) To address these needs, the IESO is seeking to competitively secure 4,000 MW of capacity through the first Long-Term Request for Proposals (“<b>LT1 RFP</b>”), complementary expedited procurement process “the Expedited Process” (“<b>E-LT1 RFP</b>”), and this Same Technology Upgrades Solicitation. The 2022 Annual Acquisition Report and the Resource Eligibility Interim Report describe these mechanisms and needs in more detail.</p> <p>(c) It is expected that upgrades and efficiency improvements to existing contracted facilities should provide for timeliest and most cost-effective capacity increases to the electricity system. Therefore, the Same Technology Upgrades Solicitation is a targeted call for new cost-effective capacity upgrades from existing contracted facilities to meet system needs in a timely manner. The streamlined process aims to incent additional output from dispatchable resources that can deliver a continuous amount of electricity for at least eight consecutive hours, and is expected to be in service</p>

	<p>between January 1, 2025 and May 1, 2025 and in any case no later than May 1, 2026.</p> <p>(d) The IESO will administer a process to enable Suppliers of Eligible Facilities (as defined in Section 5(a)) to propose increases to their facility's capacity through this Same Technology Upgrades Solicitation.</p>
<p>2. Overview of Same Technology Upgrades Solicitation</p>	<p>(a) Suppliers will be invited to make submissions to the IESO to increase the capacity of their facility (a "<b>Submission</b>") by means of a Permitted Upgrade (as defined in Section 3(a)). The IESO intends to engage with Suppliers whose Submissions satisfy the eligibility criteria and for which the IESO has determined to be worth pursuing, in its sole discretion. The factors that will be considered by the IESO in deciding whether to pursue a Submission are set out in Section 6.</p> <p>(b) This call for Same Technology Upgrade submissions is not a formal procurement and does not constitute a request for proposals or tender process. In addition, the Submission is not an invitation for a bilateral negotiation other than to implement a Permitted Upgrade and Suppliers are expected to submit parameters, as further described in Section 4, on the basis that they are able to contractually commit to those parameters.</p>
<p>3. Permitted Upgrades</p>	<p>(a) Only Permitted Upgrades will be eligible to be proposed through the Same Technology Upgrade Solicitation. A "<b>Permitted Upgrade</b>" means an upgrade to an Eligible Facility that:</p> <p>(i) provides an increase to the applicable Contract Capacities (the "<b>Upgrade Capacity</b>") by increasing the Existing Capability at the facility by an amount greater than or equal to the Upgrade Capacity. For clarity, a Permitted Upgrade must be incremental to both the existing Contract Capacity and any existing uncontracted capacity;</p> <p>(ii) uses substantially the same technology and fuel type as the existing facility or the addition of auxiliary balance of plant equipment, and that does not involve the installation of new generating equipment except where such new generating equipment is a replacement or upgrade of existing generating equipment. Where it is technically possible to separately meter the</p>

	<p>modifications, it will not generally be considered a Permitted Upgrade;</p> <p>(iii) is at the same connection point(s) as the existing facility, which should be unchanged from the existing connection point unless the connecting authority requires the existing facility’s connection point to be changed to accommodate the increase in capacity;</p> <p>(iv) will be dispatchable with load-following capability for a minimum of eight hours; and</p> <p>(v) is expected to have an in-service date between January 1, 2025 and May 1, 2025, and must be in service no later than May 1, 2026.</p> <p>(b) Other submissions that increase capacity that are not Permitted Upgrades, such as the installation of new generating equipment or improvements that would necessitate a new metering or connection point are not eligible under the Same Technology Upgrades Solicitation but may be eligible in the E-LT1 RFP or the LT1 RFP.</p>
<p>4. Submissions</p>	<p>(a) Each Submission should provide:</p> <p>(i) a narrative description of the proposed upgrade, including a description of how the proposed upgrade is a Permitted Upgrade and how it will achieve the Upgrade Capacity for the Eligible Facility within the timeframe as described in Section 3(a)(v);</p> <p>(ii) the Existing Capability and the Upgraded Capability of the Eligible Facility over an ambient air temperature range of -10°C to +30°C, in 5°C increments (the “<b>Existing Capability Range</b>” and “<b>Upgraded Capability Range</b>”, respectively), including a description of how these values have been derived;</p> <p>(iii) details regarding any new equipment, its impact on facility capability, OEM quotes, feasibility studies, and technical drawings. Along with the evaluation criteria outlined in Section 6, the IESO will review the Submission from a technical feasibility perspective;</p> <p>(iv) where the Submission is in respect of an Eligible Facility with a contract expiring on or after January 1, 2033, the Net Revenue Requirement (NRR) (in 2025 \$/MW-month) that the Supplier is seeking to recover the cost</p>

of completing the Permitted Upgrade (the "**Upgrade NRR**")<sup>1</sup>. From and after Upgrade In-Service (as defined in Section 8(vi)) for the remainder of the contract term without extension, (1) the NRR in the applicable contract would be adjusted to the average of the Upgrade NRR and the existing NRR, weighted based on the existing Contract Capacity and the Upgrade Capacity, and (2) the Contract Capacity in the applicable contract would be increased to account for the Upgrade Capacity;

- (v) where the Submission is in respect of an Eligible Facility with a contract expiring on or before December 31, 2032, either or both of (A) an Upgrade NRR (as defined above) and/or (B) a proposed revised NRR on the basis of a term extension to April 30, 2035, (the "**Extension NRR**") that would apply from and after Upgrade In-Service for the remainder of the contract term, as extended. For clarity, the Extension NRR would replace the existing NRR rather than be blended with the existing NRR.
- (vi) the derivation of the Upgrade NRR and Extension NRR, as applicable, on an open-book basis. This should be in the form of a financial model that outlines the Supplier's assumptions for project cost, revenues, financing, amortization, taxation, return on investment, etc., as well as documentation to substantiate these assumptions. The IESO expects that Suppliers will work with their vendors or suppliers to enable the information requested by the IESO to be provided on a confidential basis for the purposes of substantiating the applicable Upgrade NRR and/or Extension NRR proposal(s);
- (vii) a work-back schedule to design, permit, construct and commission the Permitted Upgrade, with critical-path items, including new and planned outages, and major milestones;
- (viii) a description of all major equipment purchases required to implement the Permitted Upgrade, highlighting items with long lead times;

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<sup>1</sup> Although NRR is used throughout this document, for contracts that provide for a different type of capacity payment, the Submission should specify that amount, in 2025 \$/MW-month.

	<ul style="list-style-type: none"> <li>(ix) a description of any required changes to interconnection equipment;</li> <li>(x) a description of key risks associated with implementing the Permitted Upgrade and proposed mitigation approaches;</li> <li>(xi) a summary of the funding sources to be leveraged in implementing the Permitted Upgrade;</li> <li>(xii) a description of the anticipated timing, duration and number of outages incremental to existing planned outages required to complete the Permitted Upgrade, including the incremental work intended to be performed in each outage;</li> <li>(xiii) the duration (in hours) of requested relief (if any) from the Availability calculation in the existing contract;</li> <li>(ix) the proposed in-service date, between January 1, 2025 and May 1, 2025;</li> <li>(x) for contracts where gas delivery and management costs are fully or partially to the IESO’s account, provide such incremental costs on an open book basis; and</li> <li>(xi) any other details that the Supplier believes the IESO should consider in its assessment of the Submission.</li> </ul> <p>(b) The IESO confirms that all Submissions will be maintained subject to and in accordance with the relevant provisions of the existing contract relating to Confidential Information.</p>
<p>5. Eligibility Criteria</p>	<p>(a) Each Submission should be in respect of a facility (“<b>Eligible Facility</b>”) that:</p> <ul style="list-style-type: none"> <li>(i) is the subject of a contract in good standing with the IESO, from one of the following initiatives: CES, ACES, PGC, EMCES, CHP I, CHPSOP I and II, Phase II ESA, and NUG;</li> <li>(ii) has participated in a Deliverability Assessment for the Upgrade Capacity and receives a designation as either “deliverable” or “deliverable but competing” for the option that substantially reflects the upgrade proposed in this Submission; and</li> </ul>

	<p>(iii) has not been the subject of an offer of a contract by the IESO or any other governmental authority in the preceding 24-months.</p>
<p>6. Evaluation Factors</p>	<p>(a) In deciding whether to pursue a Submission, the IESO may consider, without limitation, the following factors:</p> <ul style="list-style-type: none"> <li>(i) whether the costs submitted are reasonable and the extent to which the Upgrade NRR and/or contract extension and Extension NRR provides for ratepayer value;</li> <li>(ii) the duration of Availability relief requested in Section 4(a)(xiii);</li> <li>(iii) the extent to which the outages described in Section 4(a)(xii) could affect system reliability;</li> <li>(iv) the size of the Upgrade Capacity offered. The following is provided as guidance to inform of the IESO’s expectations for an upgrade worth pursuing under this initiative: <ul style="list-style-type: none"> <li>• 1 MW for an Eligible Facility with an Annual Average Contract Capacity of less than 10 MW;</li> <li>• 10% of Contract Capacity for an Eligible Facility with an Annual Average Contract Capacity between 10 MW and 250 MW, and</li> <li>• 25 MW for an Eligible Facility with an Annual Average Contract Capacity greater than 250 MW;</li> </ul> </li> <li>(v) the extent to which the Upgrade Capacity would be available during the following periods (from most preferred to least preferred): (A) both summer and winter peaks, (B) primarily during summer peaks, and (C) primarily during winter peaks;</li> <li>(vi) the degree of IESO resources (effort and cost) that will be required to finalize an Upgrade Amendment, taking into account the size of the Upgrade Capacity that would be secured;</li> <li>(vii) the level of risk associated with the Permitted Upgrade and the risk of not being in-service by May 1, 2025 or May 1, 2026;</li> </ul>

	<p>(viii) whether the Permitted Upgrade would have the effect of reducing the overall heat rate (i.e. increasing the efficiency) of the Eligible Facility; and</p> <p>(ix) such other factors as the IESO considers, in its sole discretion, to be relevant.</p> <p>(b) The IESO may engage on a bilateral basis with any Suppliers that have made a Submission to better understand the particulars of the submission, including how it aligns (or could be amended to better align) with the IESO’s priorities, and such other matters as the IESO considers relevant.</p>
<p>7. Submission Review Process</p>	<p>(a) The IESO will review Submissions in two stages:</p> <p>(i) <b>Stage 1 – Eligibility Review:</b> Submissions will be assessed to determine whether or not (A) the Submission is complete and provides the information outlined in Section 4; (B) the proposed facility is an Eligible Facility as defined in Section 5; and (C) the proposed upgrade is a Permitted Upgrade as defined in Section 3.</p> <p>(ii) <b>Stage 2 – Determination of whether to pursue a Submission:</b> Provided a Submission passes Eligibility Review, the IESO will determine whether to further pursue a Submission based upon the Evaluation Factors identified in Section 6.</p> <p>(b) While a Submission is in Stage 2, any capacity attributed to that Submission in the Deliverability Assessment will be held pending the completion of Stage 2. Where multiple Submissions that are “deliverable but competing” and compete with one another proceed to Stage 2, the Evaluation Factors identified in Section 6 for the purpose of evaluating Submissions will be used to decide which Submission will have priority.</p>
<p>8. Upgrade Amendments</p>	<p>(a) If the IESO elects to pursue a Submission (a “<b>Selected Submission</b>”), the IESO intends to notify the applicable Supplier on or before February 17, 2023 and to commence bilateral discussions shortly thereafter with a view to executing a contract amendment (an “<b>Upgrade Amendment</b>”) before April 14, 2023 with the following terms:</p>

	<ul style="list-style-type: none"><li>(i) For a Selected Submission on the basis of an Upgrade NRR, the Upgrade Amendment would provide for (A) an increase to the Contract Capacity in each Season (or other period) by the Upgrade Capacity, and (B) the existing NRR to be blended with the Upgrade NRR, effective from Upgrade In-Service for the remainder of the contract term, without extension.</li><li>(ii) Prior to the IESO entering into any Upgrade Amendment, the Supplier will be required to provide a certificate from an Independent Engineer confirming the Existing Capability Range included in the Submission. In addition, the IESO may also take steps to validate the Existing Capability Range, including, without limitation, by validating it against historical offers into the IESO-Administered Markets in respect of the Eligible Facility.</li><li>(iii) For a Selected Submission on the basis of an Extension NRR, the Upgrade Amendment would provide for (A) an increase to the Contract Capacity in each Season (or other period) by the Upgrade Capacity, (B) an extension to the term to April 30, 2035, and (C) the existing NRR to be replaced by the Extension NRR, effective from Upgrade In-Service for the remainder of the contract term, as extended.</li><li>(iv) Upon execution of the Upgrade Amendment, the Supplier would be required to increase the amount of Completion and Performance Security ("<b>Upgrade Security</b>") by an amount equal to \$40,000 per MW of Upgrade Capacity (based on the simple average of the proposed Seasonal (or other period) values) in the same form of Completion and Performance Security required under the particular contract prior to Commercial Operation (typically a letter of credit). Following Upgrade In-Service, the amount of Upgrade Security would be reduced to \$20,000 per MW of Upgrade Capacity (based on the simple average of the proposed Seasonal (or other period) values) and would be blended with the existing Completion and Performance Security (and as such, may be in any form of Completion</li></ul>
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	<p>and Performance Security that is permitted following Commercial Operation).<sup>2</sup></p> <p>(v) The Upgrade Amendment would revise Exhibit A of the existing contract to include a summary of the Permitted Upgrade.</p> <p>(vi) To achieve “<b>Upgrade In-Service</b>” the Supplier would be required to (A) pass the Same Technology Upgrade Performance Test; and (B) provide a certificate from an Independent Engineer confirming the Permitted Upgrade has been completed and has received its Final Registration Authorization Notice (RAN), all in accordance with the Same Technology Upgrade Performance Test Protocol in substantially the form provided as Exhibit A to this document.</p> <p>(vii) If Upgrade In-Service has not been achieved by May 1, 2025, but is achieved by May 1, 2026, the sole consequence to the Supplier would be the corresponding delay before the increased monthly payments apply. If Upgrade In-Service has not been achieved by May 1, 2026, the Supplier would forfeit the Upgrade Security as the IESO’s sole remedy for this failure, and the Upgrade Amendment would be unwound.</p> <p>(viii) The dates set forth in Section 8(vii) would be subject to extension by up to one year for events of Force Majeure, after which either party may terminate the Upgrade Amendment and the Upgrade Security would be returned.</p> <p>(ix) The Upgrade Amendment would provide for any required amendments to the Test Protocol, Capacity Check Test parameters, and Metering Plan to account for the implementation of the Permitted Upgrade, as well as the addition of the Same Technology Upgrade Performance Test Protocol to the contract.</p> <p>(x) The Upgrade Amendment would provide for the exclusion from the Availability calculation of the duration of Outage taken to complete the Permitted Upgrade, up</p>
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<sup>2</sup> For contracts that do not provide for post-Commercial Operation Completion and Performance Security, the Upgrade Security will be standalone security, and up to 90% of the amount can be provided in the form of a parent company guarantee from a sufficiently creditworthy entity (as set forth in the standard CES contract language).

	<p>to the maximum amount requested in Section 4(a)(xii) (or as otherwise agreed).</p> <p>(b) No other amendments to existing contractual terms or obligations are anticipated, except as expressly provided for in this document.</p>
<p>9. Milestone Dates</p>	<p><b>Solicitation Phase:</b></p> <p>(a) Deliverability Assessment Submission Deadline: August 30, 2022</p> <p>(b) Draft Outline Document Posted: September 2, 2022</p> <p>(c) 2<sup>nd</sup> Draft Outline Document Posted: September 26, 2022</p> <p>(d) 3<sup>rd</sup> Draft Outline Document Posted: October 17, 2022</p> <p>(e) 4<sup>th</sup> Draft Outline Document Posted: November 1, 2022</p> <p>(f) Deliverability Test Results: November 30, 2022</p> <p>(g) Final Call Document Posted, and beginning of Acceptance of Submissions: <b>December 5, 2022</b></p> <p>(h) Submission Deadline: <b>5:00 PM EST, December 20, 2022</b></p> <p>(i) Target Date for Selected Submission Notifications: <b>February 17, 2023</b></p> <p><b>Upgrade Amendment Phase:</b></p> <p>(j) Target Date for Conclusion of Upgrade Amendment Phase: <b>April 14, 2023</b></p>
<p>10. Defined Terms</p>	<p>In addition to the terms defined elsewhere in this document, the following capitalized terms have the meanings stated below:</p> <p><b>“Eligible Facility”</b> has the meaning given to it in Section 5(a) of this document.</p> <p><b>“Existing Capability”</b> means, with respect to a facility at a given ambient air temperature, the maximum stable output of that facility at the Delivery Point net of Station Service Loads (in MWh per hour), on the Submission Deadline.</p> <p><b>“Existing Capability Range”</b> has the meaning given to in Section 4(a)(ii) of this document.</p>

	<p><b>“Extension NRR”</b> has the meaning given to in Section 4(a)(v) of this document.</p> <p><b>“Permitted Upgrade”</b> has the meaning given to it in Section 3(a) of this document.</p> <p><b>“Same Technology Upgrade Performance Test”</b> means the performance test demonstrating the capability to produce the sum of the existing Contract Capacity and Upgrade Capacity, as set forth in the Same Technology Upgrade Performance Test Protocol.</p> <p><b>“Same Technology Upgrade Performance Test Protocol”</b> means the document published by the IESO setting out the requirements to achieve Upgrade In-Service, which is appended as Exhibit A of this document, and as may be amended or replaced by the IESO from time to time without notice.</p> <p><b>“Selected Submission”</b> has the meaning given to it in Section 8(a) of this document.</p> <p><b>“Submission”</b> has the meaning given to it in Section 2(a) of this document.</p> <p><b>“Upgrade NRR”</b> has the meaning given to it in Section 4(a)(iii) of this document.</p> <p><b>“Upgrade Capacity”</b> has the meaning given to it in Section 3(a)(i) of this document.</p> <p><b>“Upgrade In-Service”</b> has the meaning given to it in Section 8(a)(v).</p> <p><b>“Upgrade Security”</b> has the meaning given to it in Section 8(a)(iv) of this document.</p> <p><b>“Upgraded Capability”</b> means, with respect to a facility at a given ambient air temperature, the maximum stable output of that facility at the Delivery Point net of Station Service Loads (in MWh per hour), at the time of Upgrade In-Service.</p> <p><b>“Upgraded Capability Range”</b> has the meaning given to in Section 4(a)(ii) of this document.</p> <p>Capitalized terms used in this document but not defined herein are intended to have the meanings given to such terms, or terms</p>
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	of similar meaning, in applicable existing contracts set out in Section 5(a)(i).
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